CHAPTER 8. HUMAN FACTORS INVOLVED IN INSPECTION AND REPAIR IN A HEAVY MAINTENANCE ENVIRONMENT

1. PURPOSE. This chapter emphasizes the information contained in the Office of Aviation Medicine report, DOT/FAA/AM-92/3, Human Factors Evaluation of the Work Environment of Operators Engaged in the Inspection and Repair of Aging Aircraft, (Human Factors Report).

3. BACKGROUND. During 1989-90, under the FAA's Office of Flight Standards Aging Fleet Evaluation, 23 site evaluations of air carriers and repair stations accomplishing in-progress inspections and heavy maintenance on FAR Part 121 aging aircraft were conducted. Concurrently, with these evaluations, the human factor aspects involved in the actual inspection and repair of the aircraft were also assessed. Copies of the Human Factors Report have been distributed to all Flight Standards District and Regional Offices.

A. The Human Factors Report addresses seven areas. The following are brief summaries of some of the more notable areas:

(1) The noise levels were found to be low, thus requiring no ear protection; however, there existed short periods of very high noise levels, usually due to power tool use, which required ear protection. Typically, the tool operators used ear plugs while workers in nearby areas did not.

(2) Work stands and platforms were generally adequate with marginal areas where some specifically configured work stands were used for other than their intended purposes.

(3) Most operators had adequate occupational safety programs; some were exceptional while others could be considered only marginally adequate. Numerous instances were noted whereby the operator's program stated a certain piece of safety equipment was mandatory, but their use was inconsistently enforced (such as safety shoes, ear and breathing protection, and safety lines).

(4) All sites surveyed had deficiencies in the area of illumination. Typically, the overhead lighting was sufficient for work being accomplished while aircraft interior and underside illumination was not.

B. Even though data collected was primarily obtained by reviewing facilities maintaining older aircraft, the information in the report is representative of most heavy maintenance environments. All principal maintenance and avionics inspectors should become familiar with the contents of the Human Factors Report and ensure that their assigned operators have included specific training and testing into their maintenance/inspector training program that address the problems associated with performing visual inspections. In addition, a copy of the Human Factors Report should be supplied to the operator(s) for their information and use.

5. SUMMARY. This chapter is being written in response to concerns by the NTSB, the FAA, and the aviation community. As policy is still being developed, this chapter will be considered a living document that will grow and be expanded upon as time goes by. This initial issuance of this chapter basically reminds inspectors that "human factors" is a major concern that needs to be addressed on a continuing basis by both the FAA and the aviation community.